

SHAPE MEMORY ALLOY ACTUATED FLUID CONTROL VALVE

Patent number: WO0133306

Publication date: 2001-05-10

Inventor: HILL STEVEN H (CA); HINES ANTONIO (US); GLIME WILLIAM H (US); RIGSBY BRUCE S (US); GAUSMAN THEODORE J (US)

Applicant: HILL STEVEN H (CA); HINES ANTONIO (US); SWAGELOK CO (US); GLIME WILLIAM H (US); RIGSBY BRUCE S (US); GAUSMAN THEODORE J (US)

Classification:

- **International:** G05D7/06; F16K31/02

- **European:** F16K31/00C

Application number: WO2000US29538 20001027

Priority number(s): US19990431694 19991101

Also published as:

WO0133306 (A3)

US6247678 (B1)

Cited documents:

US5345963

US5927400

EP0841510

US5685148

EP0466135

[more >>](#)

Abstract of WO0133306

The SMA driven fluid control valve actuator includes a multiplicity of SMA wire sections for moving the movable element from a biased first position to a second position when heated. An electrical controller controls the heating of the SMA wire sections by regulating current therethrough, and may be governed by a position measurement to regulate current to the SMA drive element to position the movable element to a desired position. The valve actuator may also include a temperature controller governed by temperature signal provided by a temperature-sensing means in proximity to the SMA drive element to activate a cooling device for reducing the temperature surrounding the SMA drive element. The electrical controller may also be governed by both a position measurement and a temperature signal to regulate current to the SMA drive element and to control the cooling device to position the movable element to a desired position.

